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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,207	12/13/2001	Darryl Franklin Clark	KCC-15,966	2652

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EXAMINER
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YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/023,207

Applicant(s)

CLARK ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 23-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I (claims 1-22) in the reply filed on 05-03-04 is acknowledged.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite, because it is unclear what is intended by a limitation of a first polymer being "*fully activated*". In spite of Applicant's own disclosure, which states that "... a low melting point sheath which is fully activated to melt and wet ..." (emphasis added; abstract), on page 11 full paragraph 1 of Applicant's amendment, Counsel argues that "... hereby amended Claim 1 to recite that the first polymer is fully activated, not just exposed to melting point temperature". Is Applicant suggesting that, a "*fully activated*" first polymer of multi-component filaments defines over a melted first polymer of multi-component filaments taught by WO '658. If so, then Examiner is not able to properly determine the scope of the term "*fully activated*". Note that: WO '658 expressly teaches subjecting a fiber web to a "*through-air bonding*" operation in which the air temperature "*is*

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*sufficiently hot to melt one of the polymers ...*" (emphasis added; page 6 full paragraph 4 and page 16 lines 4-6)?

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/29658 in view of Jackson et al (US 5,350,370).

With respect to claims 1-2 and 14, WO '658 discloses a process of making absorbent non-woven web, the process comprises:

- a) forming bi-component filaments by extruding an array of molten thermoplastic filaments into an air-stream;
- b) combining/commingling super-absorbent articles and/or pulp fibers with the bi-component filaments in the air-stream
- c) cooling the filaments;
- d) collecting the filaments and commingled super-absorbent particles and/or pulp fibers onto a forming conveyor to form a fibrous web;
- e) passing the web through a through-air bonding operation to improve bonding of the particulate materials in the web; wherein the air is *"sufficiently hot to melt one of the polymers of which the fibers of the web"* at a dwell time as long as 6 seconds (page 3 last paragraph to page 4 1<sup>st</sup> full paragraph; page 5 last

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paragraph to page 6 paragraph 4; page 8 full paragraph 1; page 11 full paragraph 3; page 14 full paragraphs 1-3 (especially last paragraph); page 15 lines 1-3 and last two lines; page 16 lines 1-6).

Although not expressly disclosed, melted components of bi-component filaments would naturally flow around the particulate materials in the web, thereby, wetting a majority of the super-absorbent particles and/or pulp fibers.

WO '658 differs from claims 1-2 and 14 in that, WO '658 does not teach densifying a filamentary web to a density recited in claims 2 or 14, while the binder component in multi-component filaments in a web is fully activated.

However, it would have been obvious in the art to densify a fibrous web taught by WO '658 to a density range of 0.1-0.3 g/cc, while the binder component in multi-component filaments in a web is fully activated (i.e. melted), because: a) Jackson et al discloses a desirability of heat-pressing a fibrous absorbent web for a sufficient time to at least soften the binder fibers in the web, thereby bonding and compacting the web to a density of 0.1-0.5 g/cc (abstract; col. 7 line 27 to col. 8 line 38; and, it is a notoriously common practice in the art to melt (i.e. fully activate) binder component of a bi-component fibrous material in a web during a heat-compaction operation in order to effectively bond the web.

With respect to claim 3, the recited limitation in this claim reads on cooling a densified web at ambient condition. In any event, it would have been obvious in the art to subject a densified web in a modified process of WO '658 to a cooling

device in order to accelerate the hardening of a molten binder component of multi-component filaments in a fibrous web.

With respect to claim 4, see page 8 full paragraphs 1-2 of the WO '658 patent.

With respect to claim 5, page 3 last two lines to page 4 line 9; page 15 last two paragraphs to page 16 line 6 of the WO '658 patent.

With respect to claim 6, page 11 full paragraphs 2-3 of the WO '658 patent.

With respect to claims 7-8, WO '658 teaches forming a mixture of bicomponent spunbond filaments and bicomponent melt-blown filaments; accordingly, the spunbond filaments are used to impart greater strength, while the melt-blown filaments are used to capture and entangle pulp fibers/superabsorbent particles.

In another embodiments, WO '658 further teaches using a mixture of bicomponent spunbond filaments and melt-blown filaments (need not be bicomponent); wherein the melt-blown filaments are used as a binder material, which has "*a relatively low melting point*" (page 11 last two full paragraphs).

Therefore, depending on the desired end-use of the melt-blown filaments, it would have been obvious in the art in the art to either use a relatively high melting point melt-blown filaments (for use in capturing and entangling absorbent materials) or use a relatively low melting point melt-blown filaments (for use as a binder material).

With respect to claim 9, see the incorporated cited patents on page 5 and on page 10 full paragraph 1 of the WO '658 patent.

With respect to claim 10, see page 12 of the WO '658 patent.

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With respect to claim 11, see page 8 lines 1-6 of the WO '658 patent.

With respect to claim 12, see page 3 full paragraph 4 of the WO '658 patent.

With respect to claim 15, see page 9 full paragraph 2 of the WO '658 patent.

With respect to claims 16-18, see page 7 full paragraph 1 of the WO '658 patent.

With respect to claim 19-21, see page 20, claims 19-21 of the WO '658 patent.

With respect to claim 22, see page 6 full paragraph 4 of the WO '658 patent.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 5 as applied to claim 1 above, and further in view of Haynes et al (US 6,019,152).

It would have been obvious in the art to subject a fibrous web on a forming wire with a forced air heater, as such is conventional in the art in order to enhance the structural integrity of a non-woven web as exemplified in the teachings of Haynes et al (col. 2 lines 19-52; figure 8).

### ***Response to Arguments***

7. Applicant's arguments filed on 05-03-04 have been fully considered but they are not persuasive.

Counsel basically made the following argument: a) newly amended claim 1 requires, *"the densification of the web takes place while the web is fully activated, thereby ensuring that the most contact of the web between the absorbent and liquid polymer takes place"*; b) *"it is not believed that Jackson [or WO '658] teaches or suggests that the first polymer is fully activated, rather than just exposed to a melting point temperature"* (the terms "or WO '658" were inserted).

With respect to Counsel's arguments regarding "b", Examiner strongly disagrees with Counsel's assertion. WO '658 clearly teaches through-air bonding a fiber web, where a temperature of the air *"is sufficiently hot to melt one of the polymers ..."* (emphasis added; page 6 full paragraph 4 and page 16 lines 4-6). Moreover, Jackson et al also clearly teaches heating binder fusible fibers in a fibrous web to *"to at least their softening point as the compaction rollers compress, bond and densify"* the fibrous web (col. 8 lines 17-38); accordingly, heating a fibrous web at a temperature of 140 °C for a period of 15 seconds is sufficient to activate the binder. One reading the Jackson et al reference as a whole would have reasonably understood and appreciated that, Jackson et al contemplates melting (i.e. fully activating) binder fibers in a web. As for Counsel's argument regarding "a", it is respectfully submitted that, one reading the collectively teachings of WO '658 and Jackson et al would have suggested to one in the art to heat a fiber web so that the binder component of multi-components filaments in a fibrous web is at least in a softened (preferably in a melted) state during a compaction (i.e. densifying) operation of the fibrous web. In any event, it would have been obvious in the art to fully activate (i.e. melt) the binder component of multi-components filaments in a fibrous web during a bonding operation, because it is a notoriously common practice in the art to melt (i.e. fully activate) a binder component of a multi-component fibrous material in order to ensure effective bonding of a fibrous web. See for instance, Counsel's



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own disclosure regarding related prior art processes in numbered paragraphs 0004-0005.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
06-07-04